

# Exhibit C

## **Expert Disclosure – Professor Amit Seru**

(December 8, 2023)

Professor Amit Seru is the Steven and Roberta Denning Professor of Finance and the Senior Associate Dean of Academic Affairs at the Stanford University, Graduate School of Business with expertise in banking, trading, and securities markets.

### **A. Qualifications and Prior Testimony**

Professor Seru received a bachelor's degree in Electronics and Communications in 1996 and an MBA in 1998 from the University of Delhi. He graduated with a Ph.D. in Finance from the University of Michigan in 2007.

Since 2017, Professor Seru has been the Steven and Roberta Denning Professor of Finance at the Stanford University, Graduate School of Business. He has served as the Senior Associate Dean of Academic Affairs since 2022. Professor Seru joined Stanford University as a Professor of Finance in 2016. Prior to that, Professor Seru spent nine years at the University of Chicago, Booth School of Business, where he was the Dennis and Karen Chookaszian Professor of Finance as well as the Co-Director of the Fama Miller Center. Professor Seru has also served as a Research Fellow at the National Bureau of Economic Research and the Center for Economic Policy Research. Professor Seru also previously served as a Senior Consultant at Accenture.

Professor Seru has authored several book chapters and published numerous articles in peer-reviewed academic journals. In addition to publishing, Professor Seru has served as the co-editor of the *Journal of Finance*, editor of the *Review of Corporate Financial Studies*, department editor of the *Journal of Management Science*, and associate editor of the *Journal of Political Economy* and *Journal of Financial Intermediation*. Professor Seru's *curriculum vitae*, which lists all of Professor Seru's published writings, is attached hereto as Appendix A.

Professor Seru has testified in depositions in the last four years, including in connection with *In re Tesla Inc. Securities Litigation*, 18 Civ. 4865 (N.D. Cal.).

Professor Seru is being compensated for his time at the rate of \$1,000 per hour. His work is being supported by personnel at the consulting firm Integra FEC, which has performed research and analysis under his direction. Integra FEC is being compensated separately for its work on this matter. Neither Professor Seru's compensation nor that of Integra FEC is contingent upon Professor Seru's testimony or the outcome of this matter.

### **B. Data Sources**

Professor Seru's data sources are set forth in Appendix B. For ease of reference, certain sets of data are referred to throughout this disclosure as follows:

- “Archegos Order and Execution Records” refers to Archegos's trade blotter, Archegos's daily combo sheets, and the Archegos order information captured by EMSX, the Bloomberg order execution management system used by Archegos.

- “Archegos Trading IB Records” refers to the set of recurring Instant Bloomberg messages between Bill Hwang, William Tomita, Daiki Taniguchi, and Peter DeSanto.
- “NYSE Daily TAQ Data” refers to the trade-and-quote data set made available by NYSE.

In addition to the materials identified in Appendix B and the studies, analyses, and data described below in Section C, Professor Seru’s observations and opinions are further based on his academic research and professional experience.

### **C. Anticipated Opinions**

The Government anticipates that, if called as a witness, Professor Seru will provide summary statistics regarding Archegos’s portfolio, Archegos’s orders, and Archegos-linked trades and will offer opinions about the price and demand signals conveyed by Archegos’s orders and trading activities and how such price and demand signals altered the behavior of other market participants. More specifically, the Government anticipates that Professor Seru may offer the following testimony and opinions:

1. Professor Seru’s testimony may include background terms and concepts, such as:
  - a. A “public company” is a company that has issued stock that is traded on a stock exchange.
  - b. A “security” is, among other things, any note, stock, bond, debenture, evidence of indebtedness, investment contract, or participation in any profit-sharing agreement.
  - c. A “stock” is a specific type of investment signifying ownership in a corporation, and represents a claim on the corporation’s assets and earnings. Stock is measured in shares, which investors can buy and sell. “Outstanding shares” generally refers to the number of shares of stock held by all of the company’s shareholders. “Float” generally refers to the portion of a company’s outstanding shares of stock that are available for investors to trade.
  - d. A “swap” is a derivative contract through which two parties exchange financial instruments. One type of swap is a “total return swap,” which is a swap agreement in which one party makes payments based on a set rate while the other party makes payments based on the return of an underlying asset. A total return swap enables a party to receive the economic benefit of a reference asset without owning it. A “bullet swap” is a form of swap that settles at full maturity, usually in the form of a single net payment.
  - e. The International Swaps and Derivatives Association (“ISDA”) is a financial industry association made up of market participants and market infrastructure firms that seeks to foster safe and efficient derivatives markets to facilitate effective risk

management for all users of derivative products. Among other things, ISDA develops and distributes standardized documentation for use by industry participants seeking to engage in derivatives transactions. Parties to derivatives transactions may negotiate and customize the terms of their transaction, including as to price and settlement.

- f. An “ADR” or an American Depositary Receipt is a certificate representing shares of a foreign security. ADRs may be listed on a national securities exchange in the United States. ADRs enable indirect ownership of foreign securities that are not traded directly on a national exchange in the United States.
- g. A “broker” is any person who facilitates stock transactions for the accounts of others. A “brokerage firm” is an entity that brings together buyers and sellers to facilitate a stock transaction. Domestic brokers and brokerage firms generally are required to register with the Securities Exchange Commission (“SEC”) and the Financial Industry Regulatory Authority (“FINRA”).
- h. A “long” position is an investment position that appreciates in value as the underlying securities appreciate in value. A “short” position is an investment position that appreciates in value as the underlying securities decrease in value.
- i. “Short selling” is a type of trade wherein an investor borrows a security, sells it on the open market, and expects to buy it back later at a lower price. “Short selling” is typically profitable when the price of the security declines after it has been borrowed and sold.
- j. A “prime broker” is a financial institution that offers a bundle of financial services to sophisticated investors. Services may include securities brokering, margin lending, and cash management.
- k. A “margin account” is a type of brokerage account in which a broker-dealer lends its customer cash to purchase securities, and the customer offers the investments in the account as collateral. To buy “on margin” means to use the money borrowed from a broker to purchase a security. A “margin call” is a demand from the broker that the customer add money to the account.
- l. The New York Stock Exchange (“NYSE”) and NASDAQ are stock exchanges where stocks are traded, bought, and sold. Shares on the NYSE and NASDAQ trade through brokerage firms that execute buy and sell transactions on behalf of clients who have accounts with their firms. NYSE, NASDAQ, and other American exchanges capture electronic data regarding securities transactions and offers to buy and sell securities.
- m. A “dark pool” is an alternative trading system in which only certain investors are permitted to trade and in which trades are facilitated anonymously.

- n. A “hedge fund” is an institutional investor that manages a pool of investor money in an effort to make a positive return. Hedge funds are subject to regulation by the SEC as investment advisors and therefore must publicly file periodic reports and disclosures.
- o. The phrase “family office” refers to an investment company that is owned by and manages the investments of a single family as opposed to the investments of multiple private investors. A “family office” typically is exempted from the SEC disclosure and filing rules that apply to hedge funds and other investment advisors.
- p. “Rehypothecation” refers to a practice whereby brokerages use client collateral for their purposes. A brokerage, for example, may temporarily lend a client’s stock to a short seller.
- q. “Imbalance” refers to the extent to which buy orders exceed sell orders in a market for a given stock, or vice versa. Large buy imbalance can lead to rising prices, while large sell imbalance can lead to falling prices.
- r. “Asset price bubbles” refer to periods where a particular asset trades at market prices significantly in excess of the asset’s intrinsic value.
- s. “Price discovery” refers to the process by which efficient markets determine asset prices through interactions between buyers and sellers in the marketplace.
- t. “Informed trading” refers to trading based on information not yet reflected in a stock price.
- u. “Herding behavior” refers to a phenomenon in investing where investors tend to follow and copy what other investors are doing.
- v. “Information cascade” refers to a behavioral phenomenon wherein market participants make decisions based on the observed behavior of others rather than on the participant’s private knowledge. An information cascade can develop even where the initial market decisions were based on little or incorrect information. Information cascades can lead to asset price instability because market prices can quickly and significantly change in response to public information about the intrinsic value of an asset.
- w. “Transaction costs” are the prices paid to trade a security. One type of transaction cost is “search cost,” that is, the time, energy, and money that buyers and sellers in a market expend in trying to find one another in order to engage in transactions.
- x. A “bid” is an offer to buy a security at a given price and size.

- y. An “ask” is an offer to sell a security at a given price and size.
  - z. A “bid-ask spread” is the amount by which the best offer price exceeds the best bid price for a security.
  - aa. “Wash trading” typically refers to a practice wherein a single actor or group of actors buys and sells the same security to convey the appearance of trading volume or the appearance of trading at certain prices.
  - bb. “Cornering” typically refers to acquiring enough shares of a particular public company to exercise control over the market price of the security.
  - cc. A “short squeeze” typically refers to pressure on short sellers to cover their positions because of a share price increase or a recall of borrowed shares. Short squeezes can cause rapid price increases in stock prices because of the artificial absence of short-side selling pressure on the stock’s price.
  - dd. National Market System (“NMS”) refers to the SEC-regulated system of exchange-based trading, and NMS rules apply to American exchanges, such as NYSE and NASDAQ. The NMS requires, among other things, that exchanges make bids and offers available and visible to both retail and institutional investors and that brokers provide at least the national best bid and offer quoted price to customers at the time of a trade.
- 2. Professor Seru will explain the differences between equity securities and securities-based swaps. Professor Seru will explain that securities-based swaps can permit an investor to obtain economic exposure to price changes in a security without obtaining the security itself. Professor Seru will explain that swaps dealers offer a variety of different swaps, including total return swaps, and that the parties to a swap can customize the terms of the swap such as the fees to be paid the broker, the duration of the swap, and how much initial margin the investor would need to provide. Professor Seru will note that unlike holders of equity securities, holders of securities-based swaps do not obtain shareholder rights in the security issuer.
  - 3. Professor Seru will explain that swaps dealers typically seek to profit from the fees and charges associated from a swap and do not typically hold net long or short positions for long periods in order to profit from underlying movements in the security underlying the swap. Based on academic research and review of the literature, Professor Seru will opine that swaps dealers typically hedge their economic exposure to the swap by purchasing the underlying security in the securities markets.

4. Professor Seru will explain how securities exchanges, such as NASDAQ and NYSE, function, what trade and order information is captured by the marketplace, what information is broadcast to market participants, and how securities transactions occur within them.
5. Professor Seru will explain that the National Market System and securities exchanges are intended to provide efficient venues for the trading of securities and that well-functioning securities exchanges typically reflect prices based on the operation of supply and demand. Based on academic research and review of the literature, Professor Seru will opine, however, that the behavior of individual market participants can alter market prices and trade volumes and that, under certain conditions, market participants can impair or even subvert the operation of supply and demand through their market activities.
6. Professor Seru will explain well-known trade strategies that create or abuse market inefficiencies, such as wash trading, cornering, and short squeezes. Professor Seru will opine that certain trading strategies and market behaviors can be deceptive even when they involve open market transactions.
7. Professor Seru will provide summary statistics and graphical representations reflecting the price and trade volume for equities traded under the ticker symbols VIAC, DISCA, DISCK, GSX,<sup>1</sup> IQ, TME, VIPS, BIDU, FTCH, and TCBI (the “Archegos Top Long Positions”) and FUTU and RKT (the “Archegos Top Short Positions”) (the “Archegos Top Long Positions” and the “Archegos Top Short Positions” are collectively the “Top Archegos Securities”) during 2020 and 2021 and at various points and intervals within 2020 and 2021.
8. Professor Seru will also provide summary statistics and graphical representations of Archegos’s portfolio and market activities between March 2020 and March 2021. This summary presentation will include the following:
  - A. Professor Seru will use the Archegos Order and Execution Records to describe the composition and value of Archegos’s portfolio and changes to the composition and value of the portfolio over time.
  - B. Professor Seru will use the Archegos Order and Execution Records to summarize Archegos’s trading on specific days, including the time, size, prices, handling instructions, and venue routing of orders placed by Archegos.
9. Based on review of the Archegos Order and Execution Records, Professor Seru will opine that the nature of Archegos’s orders conveyed misleading information to the stock market through its market activities:

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<sup>1</sup> “GSX” is now listed under the symbol “GOTU.”

- A. Professor Seru will explain that securities exchange trades have the potential to convey information to other market participants. For example, large buy orders, repeated buying, or aggressive bidding can signal to other market participants that buyers have different and superior information about a security than that possessed by the market as a whole.
  - B. Professor Seru will opine that Archegos's orders and linked trading appeared in the American equities markets primarily as activity by Archegos's counterparties. Professor Seru will explain that participants in the equities markets would not have been able to attribute Archegos-linked trades to Archegos because of Archegos's use of swaps and its lack of public filings.
  - C. Professor Seru will further opine that, because Archegos transacted through multiple counterparties, Archegos's orders conveyed the appearance of broad demand for the Archegos Top Long Positions from multiple different participants instead of acute demand from a single investor. Additionally, by taking most of its positions in the form of swaps, Archegos further concealed its connection to market activity in the Archegos Top Long Positions.
10. Professor Seru will opine that Archegos's orders were of sufficient price, size, volume, and frequency that they could influence the behavior of other participants in the market.
- A. Professor Seru will explain that other participants in a market may react to observed market signals by buying or selling in response to the trading of others.
  - B. Professor Seru will note, for example, that many sophisticated investment funds trade based on as little as minute changes in market conditions for an asset. Some investors trade based on a stock's perceived momentum—that is, its price trend—or deviations from historical volume. Other traders trade based on price movements on the understanding that others in the market have superior knowledge. Similarly, price changes can trigger stop-loss orders or reservation orders that would not be active unless and until the reported market price reaches a specified level.
  - C. Professor Seru will note that persistent price changes can lead to significant changes in the behavior of market participants and in market conditions. For example: Enduring price increases can have profound effects on short-sellers, for example, either by incentivizing them to trade the market or by squeezing them out of the market. Enduring price changes can cause securities to become listed in an index fund or dropped from an index fund. Enduring price changes



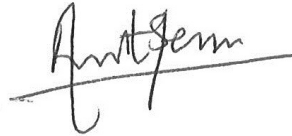
can incentivize public companies to conduct stock buy backs, if the price falls, or secondary offerings, if the price rises.

11. Professor Seru will opine that Archegos's trade orders were consistent with a strategy to influence market prices in the Top Archegos Securities and inconsistent with a strategy to build concentrated positions in the Top Archegos Securities at the best available prices.
  - A. Professor Seru will testify that investing in equities markets, like in all financial markets generally, follows the simple logic of "buy low, sell high" where investors seek to gain by acquiring an asset at as low of a price as possible, and then to sell that asset at as high of a price as possible, with the intent of earning a profit. It follows that an investor pursuing an economically sensible strategy to buy the Top Archegos Securities would seek to buy at the lowest possible price and to sell at the highest possible price to maximize potential profits from its strategy.
  - B. Relatedly, Professor Seru will testify that the economically sensible strategy when buying or selling equities is to seek to minimize the price impact of that trading on the market. This is because traders typically execute multiple trades to buy or sell a large volume of equities (as Archegos did) and want to be able to execute the later trades at good prices. In other words, if traders are buying, they typically aim to avoid having their trading push the market price up, avoid consistently beating the best price on the trading platforms, and avoid making their intent to buy large volumes clear to the market. Conversely, if traders are selling, they typically aim to avoid having their trading push the market price down, avoid clearing outstanding orders on the trading platforms, and avoid making their intent to sell large volumes clear to the market.
  - C. Based on the Archegos Order and Execution Records and the Archegos Trading IB Records, Professor Seru will opine that Archegos consistently made uneconomic trades during 2020 and 2021. For example:
    - i. Professor Seru will identify multiple instances in which Archegos engaged in pre-market trading, which Professor Seru will explain typically offers reduced liquidity and worse execution possibilities.
    - ii. Professor Seru will identify multiple instances in which Archegos maintained a percentage of market buy volume—such as 20%, 25%, 30%, or more—that would be likely to cause the price of the underlying security to increase.

- iii. Professor Seru will identify multiple instances in which Archegos increased limit prices to limits in excess of the prevailing market prices and increased limit prices and order sizes near the end of the trading day.
- iv. Professor Seru will identify multiple instances in which Archegos bought and short-sold the same stock, including on the same day. Professor Seru will identify instances of this trading pattern in the BIDU, DISCA, GSX, and VIAC tickers. Professor Seru will further opine that certain of the trades in BIDU, GSX, VIAC, FUTU, and DISCA were internally inconsistent in that Archegos sought long exposure to particular stocks at prices that exceeded prices at which Archegos had recently sought short exposure to the same stock.
- v. Professor Seru will identify multiple instances in which Archegos directed trades to counter negative news or perceived market weakness in a stock.

**D. Approval and Signature**

I hereby approve the disclosure of my qualifications, anticipated opinions, and bases for such opinions, as set forth above.

A handwritten signature in black ink, appearing to read 'Amit Seru', written over a horizontal line.

Professor Amit Seru

## AMIT SERU

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### ACADEMIC POSITIONS

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2016-	<b><i>Stanford University, Graduate School of Business, Stanford CA</i></b> Senior Associate Dean of Academic Affairs 2022- Steven and Roberta Denning Professor of Finance 2017- R. Michael and Mary Shanahan Faculty Fellow 2018--20 Professor of Finance, 2016-2017 Senior Fellow, Hoover Institution Senior Fellow, Stanford Institute for Economic Policy Research (SIEPR)
2007-2016	<b><i>University of Chicago, Booth School of Business, Chicago IL</i></b> Dennis and Karen Chookaszian Professor of Finance, 2015-2016 David Booth Faculty Fellow, 2015-2016 Co-Director of Fama Miller Center, 2015-2016 Professor of Finance, 2013-2014 Associate Professor of Finance, 2011-2012 Assistant Professor of Finance, 2007-2010
2011-	<b><i>National Bureau of Economic Research</i></b> Research Fellow, Corporate Finance and Monetary Economics Programs
2017-	<b><i>Center for Economic Policy Research</i></b> Research Fellow, Financial Economics Program
2013-2014	<b><i>Alfred P. Sloan Foundation and the Russell Sage Foundation</i></b> Working Group on Behavioral Economics/Consumer Finance

### EDUCATION

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2007	Ph. D in Finance, <b>University of Michigan</b>
1998	M.B.A, <b>University of Delhi</b>
1996	B. E (Electronics & Communication), <b>University of Delhi</b>

### ACADEMIC HONORS AND AWARDS

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2022:	Finalist, MBA Distinguished Teaching Award Keynote on Technological Disruption of Banking System, ABFER
2021:	Princeton Lectures in Finance (via Markus Academy) Keynote on Modern Banking System, ABFER Last Lecture Series, GSB
2020:	Finalist, MBA Distinguished Teaching Award Last Lecture Series, GSB
2019:	Monetary Authority of Singapore Term Professor in Economics and Finance Biennial Andrew Crockett Memorial Lecture, Bank for International Settlements Keynote on Shadow Banking, Financial Stability Institute Keynote on Shadow Banking, Midwest Finance Association Keynote on Shadow Banking, Indian School of Business

Journal of Financial Economics Paper Prize in Corporate Finance (Second Prize)  
 R. Michael and Mary Shanahan Faculty Fellow  
 2018: Alexandre Lamfalussy Senior Research Fellow, Bank for International Settlement  
 MBA Distinguished Teaching Award, GSB (School wide)  
 R. Michael and Mary Shanahan Faculty Fellow  
 2016: National Science Foundation Award (1628895)  
 Rising Star in Finance Award  
 Hillel J Einhorn Excellence in Teaching x 2  
 2015: Journal of Financial Economics Paper Prize in Corporate Finance (First Prize)  
 Emory Williams Annual (School wide) Teaching Award  
 2014: IMF Generation Next: 25 economists under 45 shaping the way we think about future  
 AER Excellence in Refereeing  
 QJE Excellence in Refereeing  
 AQR Insight Award (Second Prize)  
 Crowell Memorial Prize, Panagora Asset Management  
 Finalist, MacArthur Foundation Grant  
 2012: Best paper, Red Rock Conference  
 2011: Chookaszian Endowed Risk Management prize  
 2008: Best paper awards at European Finance Association, CAF Research Conference,  
 NSIM Conference and Mistsui Research Conference  
 BSI research award  
 2001-06: Rackham Pre-doctoral Fellowship and Dykstra Fellowship  
 1992-98: Sanwa Bank Scholarship for academic excellence (MBA)  
 Lt. Governor's gold medal for academic excellence (BE)  
 Chief Minister's gold medal for overall excellence (BE)

## RESEARCH INTERESTS

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Financial Intermediation and Regulation, Resource Allocation and Internal Organization of Firms, Performance Evaluation and Incentives

## PUBLICATIONS/ FORTHCOMING/CONDITIONAL ACCEPTANCES

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*Searching for Approval* (with Agarwal, Matvos, Grigsby, Hortacsu and Yao), 2023 [Conditionally Accepted,, **Econometrica**]

*Financial Innovation in the 21st Century: Evidence from U.S. Patents* (with Lerner, Short and Sun), 2023 [Conditionally Accepted, **Journal of Political Economy**]

*Arbitration with Uniformed Consumers* (with Egan and Matvos), 2023 [Conditionally Accepted, **Review of Economic Studies**]

*Beyond the Balance Sheet Model of Banking: Implications for Bank Regulation and Monetary Policy* (with Buchak, Matvos and Piskorski), 2022 [Accepted, **Journal of Political Economy**]

*When Harry Fired Sally: The Double Standard in Punishing Misconduct* (with Egan and Matvos), 2022. **Journal of Political Economy**

*Mortgage Refinancing, Consumer Spending, and Competition: Evidence from the Home Affordable Refinancing Program* (with Agarwal, Amromin, Chomsisengphet, Landvoigt, Piskorski and V Yao), 2022. **Review of Economic Studies**

*The Use and Misuse of Patent Data* (with Lerner), 2022. **Review of Financial Studies**

*Shadow Bank Distress and Household Debt Relief: Evidence from the CARES Act* (with Cherry, Jiang, Matvos and Piskorski), 2022. **AEA Papers & Proceedings**.

*Government and Private Household Debt Relief during Covid-19* (with Cherry, Jiang, Matvos and Piskorski), 2021. **Brookings Papers on Economic Activity**

*Financing Labor* (with Benmelech and Bergman), 2021. **Review of Finance**

*Measuring Technological Innovation over the Long Run* (with Kelly, Papanikolaou and Taddy), 2021. **American Economic Review: Insights**

*Debt Relief and Slow Recovery: A Decade after Lehman* (with Piskorski), 2021, **Journal of Financial Economics**

*Disguised Corruption: Evidence from Consumer Credit in China*, 2019 (with Agarwal, Qian and Zhang), **Journal of Financial Economics**,

*Fintech, Regulatory Arbitrage and the Rise of Shadow Banks* (with Buchak, Matvos and Piskorski), **Journal of Financial Economics**, 2018

*The Market for Financial Adviser Misconduct* (with Egan and Matvos), **Journal of Political Economy**, 2018.

*Mortgage Market Design: Lessons from the Great Recession* (with Piskorski), **Brookings Papers on Economic Activity**, Spring 2018

*Financial Market Frictions and Diversification* (with Matvos and Silva), **Journal of Financial Economics**, 2018

*"Interest rate pass-through: Mortgage rates, household consumption, and voluntary deleveraging"* (with Di Maggio, Kermani, Keys, Piskorski, Ramcharan, and Yao), **American Economic Review**, 2017  
[Note: this is a combined version of working papers Monetary Policy Pass-Through: Household Consumption and Voluntary Deleveraging by M. Di Maggio, A. Kermani and R. Ramcharan previously Revise & Resubmit at *American Economic Review* and Mortgage Rates, Household Balance Sheets, and the Real Economy by B. Keys, T. Piskorski, A. Seru, and V. Yao previously Revise and Resubmit at *Journal of Political Economy*]

*Policy Intervention in Debt Renegotiation: Evidence from Home Mortgage Affordability Program* (with Agarwal, Amromin, Ben-David, Chomsisengphet and Piskorski), **Journal of Political Economy**, 2017

*Regional Redistribution through the US Mortgage Market* (with Hurst, Keys and Vavra) **American Economic Review**, 2016.

*Technological Innovation, Resource Allocation and Growth* (with Kogan, Papanikolaou and Stoffman), **Quarterly Journal of Economy**, 2016.

*Advertising Expensive Mortgages* (with Gurun and Matvos), **Journal of Finance**, 2016

*Selling Failed Banks* (with Granja and Matvos), **Journal of Finance**, 2016

*Asset Quality Misrepresentation by Financial Intermediaries* (with Piskorski and Witkin), **Journal of Finance**, 2015.

*The Failure of Models that Predict Failure* (with Uday Rajan and Vikrant Vig), **Journal of Financial Economics**, 2015.

*Inconsistent Regulators: Evidence from Banking* (with Agarwal, Lucca and Trebbi), **Quarterly Journal of Economics**, 129(2), 2014.

*The Revolving Door and Worker Flows in Banking Regulation*, (with Lucca and Trebbi), **Journal of Monetary Economics**, 65, 2014.

*Firm Boundaries Matter: Evidence from Conglomerates and R&D Activity (earlier titled "Do Conglomerates Stifle Innovation?")*, **Journal of Financial Economics**, 2014.

*Internal Capital Markets and Dividend Policy: Evidence from Business Groups* (with Radha Gopalan and Vikram Nanda), **Review of Financial Studies**, 2014.

*Resource Allocation within Firms and Financial Market Dislocation* (with Matvos), **Review of Financial Studies**, 2014.

*Lender Screening and Role of Securitization: Evidence from Prime and Subprime Mortgages* (with Ben Keys and Vikrant Vig), **Review of Financial Studies**, 2012.

*Are Incentive Contracts Rigged by Powerful CEOs?* (with Adair Morse and Vikram Nanda), **Journal of Finance**, 2011.

*Learning by Trading* (with Tyler Shumway and Noah Stoffman), **Review of Financial Studies**, 23(2), 2010.

*Securitization and Distressed Loan Renegotiation: Evidence from the Subprime Crisis* (with Tomasz Piskorski and Vikrant Vig), **Journal of Financial Economics**, 97, 2010.

*Statistical Default Models and Incentives* (with Uday Rajan and Vikrant Vig), **American Economic Review, Papers and Proceedings**, 2010.

*Did Securitization Lead to Lax Screening: Evidence from Subprime Loans* (with Benjamin Keys, Tanmoy Mukherjee and Vikrant Vig), **Quarterly Journal of Economics**, 125(1), 2010.

*Financial Regulation and Securitization: Evidence from Subprime Loans* (with Benjamin Keys, Tanmoy Mukherjee and Vikrant Vig), **Journal of Monetary Economics**, 56(5), 2009.

*Fund Manager Use of Public Information: New Evidence on Managerial Skills* (with Marcin Kacperczyk), **Journal of Finance**, 62, 2007. Lead Article. Nominated for Smith Breeden Award.

*Affiliated Firms and Financial Support: Evidence from Indian Business Groups* (with Radha Gopalan and Vikram Nanda), **Journal of Financial Economics**, 86, 2007.

#### **WORKING PAPERS**

This update: December, 2023

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*Why is Intermediating Houses so Difficult? Evidence from iBuyers* (with Buchak, Matvos and Piskorski), 2022 [Revise and Resubmit, **Journal of Political Economy**]

*Banking without Deposits: Evidence from Shadow Bank Call Reports* (with Jiang, Matvos and Piskorski), 2022

*One Size Doesn't Fit All: Heterogeneous Depositor Compensation During Periods of Uncertainty* (with Artavanis, Paravisini, Robles-Garcia and Tsoutsoura ), 2022.

*From Rotten Apples to Rotten Orchards: Labor Market Sorting and Wrongdoing in the Financial Advisor Industry* (with Vicinanza, Egan, Rao and Matvos), Working Paper 2022

*Did Community Investment Act lead to Riskier Lending?*, 2012 (with Agarwal, Benmelech and Bergman) [Revise and Resubmit, **Journal of Political Economy**]

*Information, Credit and Organization* (with Liberti and Vig), 2017 [Revise and Resubmit, **Journal of Financial Economics**]

#### CONFERENCE PRESENTATIONS

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2023:	BIS, SITE, ABFER
2022:	NBER, SITE, ABFER
2021:	Brookings, NBER Household, NBER Real Estate, NABE/NBER, ABFER
2020:	NBER Capital Markets, SITE
2019:	SIEPR India Conference, Berkeley-Stanford, NBER Household, NBER Corporate, NBER Monetary, BIS Annual Conference, SITE
2018:	Brookings, SIEPR India Conference, Berkeley-Stanford, Stanford Innovation Summit, NBER Neemrana, Wharton Liquidity Conference, RCFS Bahamas Conference, Texas Austin Symposium on Crisis, SITE
2017:	SAFE/Goethe Conference, ECB, SITE, Berkeley-Stanford
2016:	Rising Star Conference, GSE Barcelona, Mitsui Michigan, ABEFR conference, Imperial/FCA Conference
2015:	SITE, NBER Monetary, NBER Real Estate, NUS Housing conference, European Symposium in Financial Markets (Gerzensee)
2014:	NUS Housing Conference, Symposium on Economics and Institutions, ISB Summer Symposium, FRIC Conference, NBER Household Finance, USC Organizations Conference
2013:	AEA, AFA, AQR Inquire Award, Focus group at European Symposium in Financial Markets (Gerzensee), Red Rock Conference
2012:	AEA, JAR-NY Fed, Conference on State Banking Supervisors, Kellogg Finance Conference, NBER Summer Corporate, NBER Monetary, NBER Real Estate, WFA, Red Rock Conference, Focus group at European Symposium in Financial Markets (Gerzensee)
2011:	AEA, NBER Housing, NBER Corporate
2010:	AFA, AEA, Econometric Society, Conference on Housing Market Dynamics, NBER Pre-Conference on Housing and Financial Crisis, NBER Conference on Housing and Financial Crisis, 58 <sup>th</sup> Annual Management Conference Chicago Booth



2009: AFA, Mitsui Symposium at Michigan, NBER Corporate (Spring & Summer), NBER Monetary Economics (Summer), NBER Real Estate (Summer), NBER Law and Economics (Summer), NBER Securitization Meeting, NBER Household Finance, KU Southwind Conference, FMRC Conference on the Role of Government Regulation

2008: AFA, Focus group at European Symposium in Financial Markets (Gerzensee), EFA, Mitsui Symposium at Michigan, Moody's/NYU Credit Risk Conference, NBER Corporate (Spring), SITE Workshop (Insurance and Credit Markets)

2007: AFA, Batten Young Scholar

2004-2006: WFA, EFA, UNC Conference on FEA, Northern Finance Association Meetings, EFMA, Pacific Northwest Finance Conference

#### SEMINAR PRESENTATIONS

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2023: BIS, Hoover

2022: UCLA, Chicago Booth, INSEAD, Wharton, Philly Fed, BIS, Dallas Fed, FDIC

2021: Princeton, Stanford, Minneapolis Fed, Fed Board, Banco de Portugal, ECB, Banco Central de Uruguay, FDIC

2020: Georgetown, Stanford, BIS, Rice, Michigan, Texas Austin, Dartmouth, Carlson

2019: MIT Sloan, HBS, BIS, Stanford, NUS, MAS,

2018: Olin, Kellogg, NYU, Yale, BIS, Stanford, AQR

2017: Stanford (Engineering, Math), BIS, HKMA

2016: Wharton, Dartmouth, Berkeley, UNC, NY Fed, LBS, LSE, Stanford

2015: Stanford, Chicago Booth, NUS

2014: NYU, HEC, Michigan, Rutgers, Stanford, OSU, UBC, MIT Sloan

2013: Chicago Booth, Purdue, Rice, Stockholm School of Economics, DePaul, Bocconi

2012: Chicago Booth, Insead, Columbia GSB, USC, Kellogg, Arizona, USC, Darden, Oregon, HBS, UCLA, Berkeley, Arizona State, Princeton

2011: Chicago Fed, Chicago Booth (x3), DePaul University, Stockholm School of Financial Research, Texas Austin, OCC

2010: Chicago Booth, Wharton, Loyola, Berkeley, Michigan, NYU, AQR

2009: Amsterdam School of Business, BYU, Berkeley, Chicago Booth, Columbia GSB, DePaul, Harvard Economics/HBS, MIT Sloan, NY Fed, Stanford, UCLA, UIC

2008: Boston College, Chicago Booth (x2), Chicago Fed, IMF, Kellogg, Michigan, Michigan State, Olin WashU, Princeton, Standard and Poor's

2007: Arizona State, Boston College, Chicago Booth, Colorado, Duke, HBS, London Business School, NYU, Ohio, Rochester, Toronto, UBC, Wharton, Yale

#### PROFESSIONAL ACTIVITIES

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*Journals:* **Journal of Finance** (Co-editor, 2016-22; Associate Editor (AE), 2014-16)  
**Journal of Political Economy** (AE, 2016-2018)  
**Management Science** (Department Editor, 2014-2016; AE, 2012-2013)  
**Review of Corporate Financial Studies** (Editor, 2014-2016)  
**Journal of Financial Intermediation** (AE, 2013-2016)



*Journal Referee:* American Economic Review, AEJ: Applied Microeconomics, AEJ: Microeconomics, AEJ: Macroeconomics, Econometrica, Journal of Finance, Journal of Financial Economics, Journal of Financial Intermediation, Journal of Economic Growth, Journal of Political Economy, Quarterly Journal of Economics, Journal of Financial and Quantitative Analysis, Review of Economic Studies, Review of Economics and Statistics, Review of Financial Studies, Journal of Law and Economics

*Keynote/Lecture:* ECB Training Lectures 2021; Markus Academy/Princeton Lectures in Finance 2021; ABFER 2021; Brookings 2021; Fed Board, 2021; BIS Annual Meetings 2019; BIS/CEPR Conference, 2019; MFA, 2019; ISB Summer Conference 2019; FDIC Annual Conference, 2019.

*Panels:* FARFE, How COVID-19 has Reshaped the U.S. and Global Economy, co-hosted by Stanford Medical School and Stanford GSB 2021; Journal Editors Panel, UT Austin 2021; RFS/NBER Conference on Inequality, Discrimination and the Financial System 2021; Covid-19 Bailout Debate, Stanford GSB 2020; AFA Innovating for Financial Health 2020; Technology Innovation and Future of the US Economy, Hoover Centennial Series 2019.

*Discussant:* RedRock Conference (2023; 2020), Stanford Accounting Bootcamp (2020), Nobel Symposium on Money and Banking (2018), NBER Global Crisis @10 (2018), Bundesbank (2017), AFA (2013, 2012, 2009, 2008), WFA (2012, 2011; 2010; 2007), AEA (2013, 2012), Bank Structure Conference (2011), FDIC Conference (2010), Moody's/NYU Credit Risk Conference (2010), IMF Twelfth Jacques Polak Annual Research Conference (2011), NBER Behavioral Asset Pricing (2012), NBER Corporate Finance (2009, 2013, 2015, 2017, 2018, 2019, 2023), NBER Entrepreneurship (2009), NBER Real Estate (2012), NBER Market Institutions and Financial Market Risk (2010), NBER Monetary Economics (2014, 2012, 2009), RFS Entrepreneurship Conference (2010), Summer Symposium (2014, 2012, 2010, 2009), RCFS Conference (2011)

*Program Committee:* AFA (2021, 2020, 2019, 2017, 2016, 2014, 2012, 2010), EFA (2006-2013), FMA (2009), FMA Award Committee (2009), Olin Corporate Finance Conference (2008-2011), WFA (2010-2012, 2014-2020), Mid-Atlantic Research Conference (2011).

*Chair* AEA (2012), WFA (2011), AFA (2021, 2020, 2019, 2018, 2011, 2010)

*Others:* Academic Advisory Board of Bank for International Settlements (2018--). IMF Advisory Panel on Global Macro-Financial Tail Risks (2022--). Co-Organized SITE on Financial Regulation (2017 - 2023). Organizer of Corporate Finance week at European Symposium in Financial Markets (2016 and 2017). Corporate Finance Reading Group at Booth (2013-2016) Co-organized NBER Summer Institute, Corporate Finance Program (2016), NBER Corporate Finance Fall Meetings (2022) Co-organized or conference on Financial Regulation at Becker Friedman Institute (2015) Organized Finance, Organization and Markets conference (2015) Organizer of Focus group on *Information and Organization* at European Symposium in Financial Markets (2013).

Moderator at Chicago Bank Structure Conference (2011, 2013)  
 Moderator at FDIC Conference (2010)  
 Co-organizer of conference on Regulating Financing Intermediaries (2011).  
 Panelist at Mortgage Bankers Association Conference (2011)

#### **PhD STUDENTS SUPERVISED/COMMITTEES**

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2022	Lulu Wang (Kellogg); Brian Higgins (IIES, Stockholm); Ulysses Velasquez (Cornerstone)
2021	Abhimanyu Mukherjee (Amazon)
2020	Becky Zhang (Amazon)
2019	Sam Antill (HBS), Yang Zhao (Amazon), Erica Jiang (USC)
2018	Greg Buchak (Stanford GSB), Jose Barrero (ITAM), Ryan Shu (Amazon)
2017	Adam Jorring (Boston College), Emanuele Colonnelli (Chicago Booth), Yiming Ma (Columbia GSB)
2016	Aaron Pancost (Texas Austin), Ben Charoenwong (NUS)
2015	John Nash (HKUST), Chenfei Lu (Uber), Andrew Sutherland (MIT Sloan)
2014	Nitish Kumar (Florida), Mark Egan (Minnesota), Rasool Zandvakil (IMF), Wei Wu (Texas), Adrien Matray [external reviewer] (Princeton)
2013	Filipe Lacerda (Cornerstone), Roie Hauser (Temple)
2012	Marina Niessner (Yale); Ram Chivukula (JP Morgan)
2011	Matthew Plosser (New York Fed); Rui Silva (London Business School)
2010	Roni Kisin (Olin School of Business), Jennifer Bontas (Analysis Group)

#### **BOOK CHAPTERS**

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2015	<i>Gene Fama's contribution to Corporate Finance (with Amir Sufi)</i> , The Fama Portfolio (editors John Cochrane and Tobias Moskowitz)
2012	<i>Mortgage Financing during Boom and Bust (with Ben Keys, Tomasz Piskorski and Vikrant Vig)</i> , NBER Chapter in Volume on Housing and Financial Crisis (editors Ed Glaeser and Todd Sinai)
2010	<i>Lessons from the financial crisis: causes, consequences, and our economic future</i>
2009	<i>Economics 2.0: What the best minds in economics can teach you about business and life</i>

#### **MEDIA MENTIONS**

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American Banker, Bloomberg, Business Week, Chicago Tribune, Condé Nast (Portfolio), Economist, Financial Times, Forbes, Housing Wire, Reuters, New York Times, National Public Radio, Wall Street Journal, Washington Post

#### **TEACHING EXPERIENCE**

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Corporations, Finance and Governance in the Global Economy at Stanford GSB, Advanced Empirical Corporate Finance (PhD) at Stanford GSB, Corporate Finance (Accelerated) elective at Stanford GSB, Corporation Finance for Executives (35801) taught at University of Chicago, Valuing Control around the World (35816), elective class, Corporation Finance (35200) taught at University of Chicago; Empirical Corporate/Banking (PhD) taught at Chicago/Michigan/SSE; Corporate Financial Policy (FIN 314) taught at University of Michigan

#### **OTHER WORK EXPERIENCE**

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1998-2001	<i>Accenture</i> , Senior Consultant
2017-2018	Expert Witness for Plaintiff, China Development Industrial Bank (CDIB) v. Morgan Stanley & Co., 2017. <i>Deposition in 2018 (2 days)</i> . Status: Settled.

*CDIB accused Morgan Stanley of having dumped losses from the CDO onto it in April 2007, after having earlier represented that the security was almost risk-free and more stable than a triple-A rated bond.*

2019 Expert Witness for Plaintiff, People of the State of California v. Morgan Stanley & Co. *Status: Settled.*

*Plaintiff accused Morgan Stanley for misrepresenting asset backed securities that Plaintiff invested in.*

2020-21 Expert Witness for Plaintiff, People of the State of California v. Navient & Corp et al. *Status: Settled.*

*Plaintiff accused Navient of misconduct in the servicing and collection of federal student loans.*

2021 Expert Report for Nomura International Plc in the case of European Commission v. Nomura International Plc and Nomura Holdings Inc.

*The commission alleged that eight banks (including Nomura) participated in a collusive scheme to distort competition and trading.*

2021-2023 Expert Report for Tesla Inc in the case of Tesla Inc. Securities Litigation Deposition in 2022. *Status: Ruled in favor of defendant.*

*Plaintiff asserted that individuals and entities who purchased or sold Tesla stock, options and other securities during a particular window were damaged.*

## **APPENDIX B**

### **Additional Data Sources**

#### ***Archegos Order and Execution Records***

SDNY\_P002\_0000023044

SDNY\_P002\_0000023045

SDNY\_P001\_0006396405

SDNY\_P001\_0006396410

SDNY\_P003\_0000000507

SDNY\_P002\_0000065205

SDNY\_P001\_0006143531- SDNY\_P001\_0006242580

SDNY\_P001\_0000094501- SDNY\_P001\_0000094548

#### ***NYSE Daily TAQ Data***

SDNY\_P016\_0000000001

#### ***Archegos Trading IB Records***

SDNY\_SWR\_0000255918- SDNY\_SWR\_0000316566